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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/511,149	04/28/2005	Kiyoharu Higashino	038917.55521US	9137

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CROWELL & MORING LLP  
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EXAMINER
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OMGBA, ESSAMA

ART UNIT	PAPER NUMBER
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3726

MAIL DATE	DELIVERY MODE
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01/11/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No. 10/511,149	Applicant(s) HIGASHINO ET AL.	
	Examiner Essama Omgba	Art Unit 3726	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 19 October 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 2,3,5 and 6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2,3,5 and 6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>8/29/2007 &amp; 10/19/2007</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on October 19, 2007 has been entered.

### ***Claim Rejections - 35 USC § 103***

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 2, 3 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bleuel et al. (US Patent 5,992,263) in view of Fevre et al. (US Patent 5,743,150) and Podhorsky et al. (EP 0 823 296), *or in the alternative*, and Durocher et al. (US Patent 5,235,734).

With regards to claims 2 and 3, Bleuel et al. discloses a method of assembling steering columns wherein a pair of symmetrically formed projections (5, 5a) on a bracket 7 comprising inner surfaces in a circular arc shape conforming to an outer surface of a column jacket 6 are fitted around the jacket and welded to the outer surface of the jacket, see column 1, lines 66-67 and column 2, lines 1-5. Although Bleuel et al. discloses the clamp projections being welded to the outer surface of the column jacket

rather than being crimped thereto, however it is known to secure such brackets to column jackets by either welding or crimping as attested by Fevre et al., see column 5, lines 19-21. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have crimped the bracket projections to the outer surface of the column jacket in the method of Bleuel et al., in light of the teachings of Fevre et al., in order to realize the benefits of using crimping over welding such as not weakening the material of the column jacket through heat from welding. Although Bleuel et al./Fevre et al. is silent on the manner the crimping is performed, however it is known to form crimp projections by applying a punch on an outer surface of the members being crimped while supporting an inner surface of the members by a die as attested by Podhorsky et al., see figures 4 and 5. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have applied a punch with an inner surface of the column jacket being supported by die, in crimping the projections in the method of Bleuel et al./Fevre et al., in light of the teachings of Podhorsky et al., as is known in the art. Regarding the recitation "the projections are crimped with the punch pressed towards a center of said column jacket", Applicant should not that it is inherent that the punch used in the process of Bleuel et al./Fevre et al./Podhorsky et al. will be pressed toward a center of the column jacket since the projections are diametrically opposed to each other: this is a conventional process in crimping diametrically opposed structures to a cylindrical member. In the alternative, Durocher et al. teaches deforming a steering shaft member 100 with the use of a punch (balls 134) while an inner surface of the steering shaft member is supported by a die 126, the deformations being formed

with the punch pressed toward a center of the steering shaft member, see figure 14. therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have crimped the projections in the method of Bleuel et al./fever et al./Podhorsky et al. with the punch pressed toward a center of the column jacket, in light of the teachings of Durocher et al., as is conventional in the art. Applicant should note that column jackets with flat sides are old and well known in the art; furthermore it is within the general knowledge to form the column jacket and the projections with complementary mating surfaces prior to crimping since a change in form or shape is generally recognized as being within the level of ordinary skill in the art, absent any showing of unexpected results. *In re Dailey et al.* 149, USPQ 47.

For claim 5, Applicant should note that column jackets formed from mild steel are old and well known in the art.

4. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bleuel et al./Fevre et al./Podhorsky et al./Durocher et al. as applied to claim 2 above, and further in view of Evans (US Patent 5,573,606).

Bleuel et al./Fevre et al./Podhorsky et al./Durocher et al. discloses a method of assembling steering columns as shown above except for the column jacket being formed from an Al-Mn alloy tube. However it is known to make steering columns from an Al-Mn alloy as attested by Evans et al., see column 4, lines 6-15 and 58-60.

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have formed the column jacket of Bleuel et al./Fevre et al./Podhorsky et al./Durocher et al. from an Al-Mn alloy, in light of the teachings of

Evans et al., in order to a steering column that is light in weight without sacrificing strength.

### ***Response to Arguments***

5. Applicant's arguments with respect to claims 2, 3, 5 and 6 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Essama Omgba whose telephone number is (571) 272-4532. The examiner can normally be reached on M-F 9-6:30, 1st Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bryant can be reached on (571) 272-4526. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Essama Omgba  
Primary Examiner  
Art Unit 3726

eo  
January 7, 2008